

Remarks

Currently pending in the application are Claims 1-4, 6-12 and 16-23, wherein Claims 1-4, 6-12 and 16-21 are rejected, wherein Claims 1-4, 6-12 and 16 are currently amended, and wherein Claims 22 and 23 are newly added.

Applicants thank the Examiner for the pleasant telephonic interview with Jason P. Sander, Reg. No. 54,422 on December 14, 2066. Applicants believe that this response constitutes a proper summary of that telephonic interview. In view of the telephonic interview, amendments to Claims 1-4, 6-12 and 16, as well as the following remarks, Applicant respectfully requests reconsideration by the Examiner, and advancement of the application to allowance.

1. Rejection Under 35 U.S.C. § 112, second paragraph

Claims 1-4, 5-12, and 16-21 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner notes that Applicants have referred to steps 1-5 within the claims, but have not identified any the steps as such. Accordingly, Applicants have amended Claims 1-3 and 16 follows for clarification: “steps b, c, and d ~~steps 2, 3, and 4 are repeated~~ ... without repeating ~~step 1~~ step a”, wherein underlining indicates added text and strikethrough indicates deleted text. Claims 9-12 have been amended similarly. Applicants have further clarified Claim 1 by inserting the term “comprising” and deleting the text “in which process the following steps are conducted” from the preamble. Additionally, Applicants have changed the preamble of Claims 1-4 and 7-12 to indicate either “A process” or “The process of”, as appropriate and for stylistic reasons. The process steps within Claim 1 have been modified to recite a list of gerunds. The term “consist of” within Claims 1 and 16 has been replaced by the open ended term “comprise” for the purpose of clarification.

Commas have been inserted within Claims 1 and 16 for stylistic reasons. Support for all of the amendments to Claims 1-4, 6-12 and 16 is found within the claims as originally filed.

Claims 2 and 3 have been amended to recite that the steps b, c, and d are repeated at least 25 times, and 50 times, respectively. Support for the amendment to Claim 2 is found in Claim 3 as originally filed. Support for the amendment to Claim 3 is found on page 15, lines 3-10, of the specification as originally filed.

Claim 22 is newly added and recites that at most one coat of the external mould release agent is applied onto at least those surfaces of the mould which will be in contact with the ingredients used for preparing the polyurethane material and/or the finished polyurethane material. Support for the newly added claim is found on page 12, lines 21-23, and Examples 1 and 2 of the specification as originally filed.

Claim 23 is newly added and recites that the external mould release agent does not contain an oligomeric salt agent. Support for the newly added claim is found on page 12, line 27.

Applicants therefore respectfully request that the rejection to Claims 1-4, 6-12 and 16-21 under 35 U.S.C. § 112, second paragraph be withdrawn, and the new Claims 22 and 23 be entered.

2. Rejection Under 35 U.S.C. § 103(a)

Claims 1-4, 6-12 and 16-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bleys ('226) or Bleys et al. ('779) or Eling et al. ('483), each in view of Payne et al. ('310).

Commercially produced polyurethane materials may be formed within a mould. It is desirable to remove the material from the mould without damaging or deforming the moulded material. Accordingly, external release agents were applied to the surface of the moulds prior to each batch of polyurethane produced. The reapplication of external release agent is time consuming and costly.

Applicants surprisingly found that it is possible to reduce the number of times external release agent needs to be applied, and the total amount of external release agent used. Applicants accomplish this by using a substantial amount of a certain polyol, as one of the reactants to form a polyurethane material. In particular, the polyol of Applicants' claimed invention has a substantial amount of oxyethylene groups in their process. Applicants disclose that their invention may incorporate "[a]ny external mould release agent known in the art may be applied". Application page 12, line 27. Another surprising advantage found by Applicants was a reduction in both the amount of external release agent necessary to release the material and a reduction in build-up. Accordingly, **Applicants' claimed invention** is directed toward a process having a relatively high number of releases due to the incorporation of a **particular polyol**, and without regard to the external mould release agent used.

'310 also seeks, *inter alia*, to reduce the number of times external mold release agent must be applied to the surface of the mold. See, '310 Col. 1, lines 48-52. Accordingly, **'310 provides a "mold release agent"** compris[ing] an oligomeric salt agent, [i.e.,] lithium, sodium, or potassium salt, or a mixture thereof of said oligomers...". See, '310 at Col. 2, lines 1-9 and Examples 1-35. '310 states that its mold release agent may applicable to "plastics molding generally". See, Col. 4, lines 31-37. Accordingly, **'310 provides no motivation to use any particular polyol**, especially a polyol having an average nominal functionality of 2-6, an

average equivalent weight of 500-5000, and an oxyethylene content of at least 50% by weight, and wherein the apparent overall density of the polyurethane material removed from the mould is 55-150 kg/m³. Moreover, Applicant believe that the proprieties of the Mobay Bayflex 210A and Bayflex 210B system do not fall within Applicant's claimed range. In particular, Applicant submits the attached affidavit of Dominicus Limerkens, which states that the polyurethane mixture of Mobay Bayflex 210A and Bayflex 210B would produce an elastomer having a density of 500 to 650 kg/m³ and is made from a polyether polyol having an oxyethylene content of about 20% by weight.

Applicants submit that one of ordinary skill in the art would have no motivation to use the teachings of '310 or combine them with any particular reference, including Bleys ('226) or Bleys et al. ('779) or Eling et al. ('483). In particular, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination." M.P.E.P. § 2143.01 (III). Applicants submit that '310 does not suggest the desirability of using any particular reactant in combination with increasing the number of mould releases. In contrast, '310 states that its disclosure is applicable to "plastics molding generally". Accordingly, the combination of '310 with Bleys ('226) or Bleys et al. ('779) or Eling et al. ('483) constitutes impermissible hindsight reconstruction, as '310 does not motivate one of ordinary skill in the art to use the particular embodiments of polyurethanes disclosed in Bleys ('226) or Bleys et al. ('779) or Eling et al. ('483), which are asserted by the Examiner to read on Applicants' claimed invention.

Applicants buttress there position that '310 does not motivate one to use their claimed polyol, by way of the attached affidavit, which states that the particular elastomer exemplified in '310 has a density much greater than Applicants' claimed density. Also, Applicants assert, in the

attached affidavit, that the elastomer of '310 was not formed using a polyol having an oxyethylene content within Applicants' claimed range.

With respect to dependent Claims 2 and 3, Applicants assert that '310 does not fairly suggest a process wherein more than 25 mould releases, or more than 50 mould releases, are achieved before additional external mould release agent is applied. In particular, the average number of releases of the 35 examples of '310 is about 10, wherein the greatest number of releases is 20 and the least number of releases is 3.

With respect to newly added Claim 22, '310 discloses applying three coats of mold release agent with 5 minutes intervals between coats to permit the coats to dry. '310 Col. 5, lines 59-60. In contrast, and advantageously, Applicants disclose a process, wherein only one coat of mold release agent is necessary. Nothing in '310 suggests that its process would work using less than three coats.

With respect to newly added Claim 23, '310 requires the use of a particular mold release agent. In contrast, Applicants disclose that any external mould release agent known in the art may be applied. Applicants respectfully assert that there is no motivation to rely on '310 if one does not use the particular mold release agent disclosed therein.

Applicants therefore respectfully request that the rejection to Claims 1-4, 6-12 and 16-21 under 35 U.S.C. § 103(a) be withdrawn.

Conclusion

In view of the foregoing remarks, Applicant respectfully submits that the application is now in condition for allowance, and respectfully requests issuance of a Notice of Allowance directed towards the pending claims.

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Respectfully submitted,



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